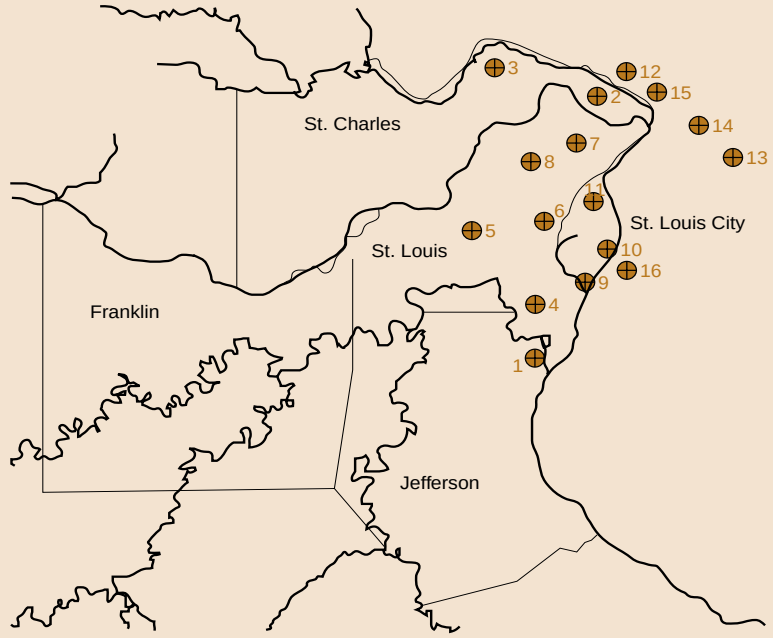
Ozone in St. Louis

Under the Clean Air Act, the EPA has designated many areas in the country as nonattainment for at least one criteria pollutant. Areas not in compliance with the ozone standard are classified marginal, moderate, serious, severe or extreme in their levels of nonattainment. The St. Louis ozone nonattainment area is one of six areas nationwide currently classified as a "moderate" nonattainment area.

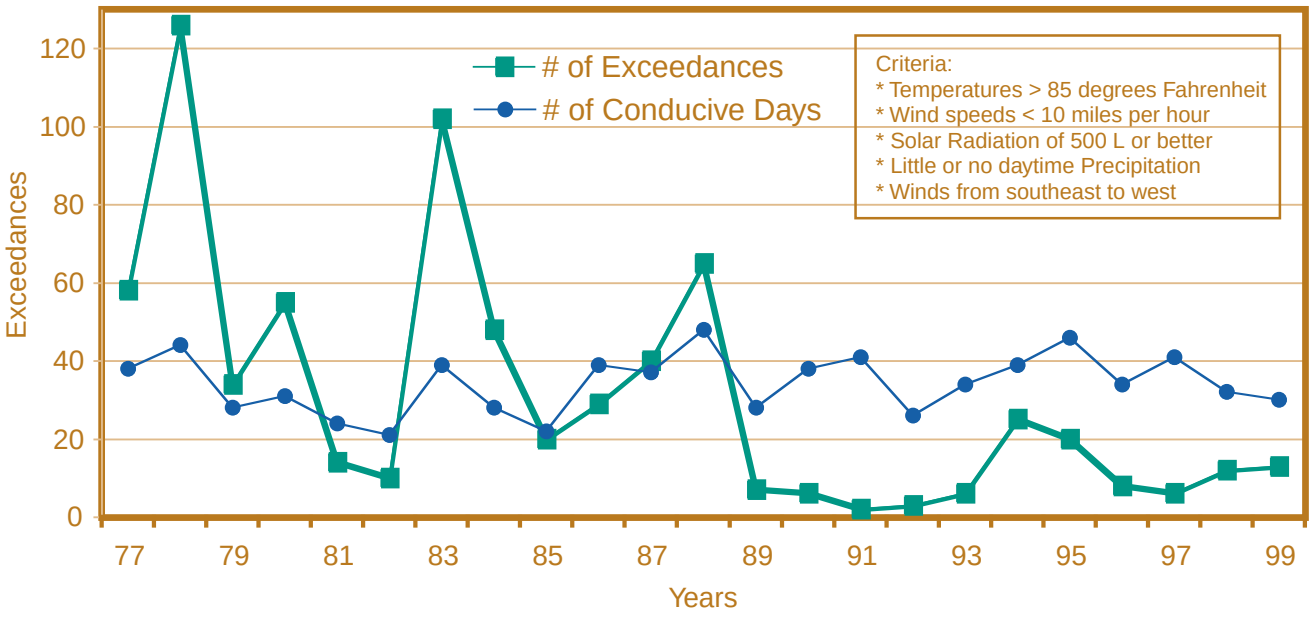
The St. Louis moderate nonattainment area includes the city of St. Louis and the counties of St. Charles, St. Louis, Jefferson and Franklin. The Illinois side includes Madison, Monroe and St. Clair counties. The map on the right shows the sites for air monitors in the nonattainment area. The chart below shows the number of days health-based ozone standards were actually exceeded, in comparison to the number of days weather conditions were favorable to ozone exceedances.

St. Louis Ozone Nonattainment Area Monitoring Sites



Site Number	Site Name	Site Number	Site Name
	Missouri		**Illinois**
01	Arnold Tenbrook, Arnold	12	409 Main St., Alton
02	West Alton	13	200 W. Division, Maryville
03	Orchard Farm	14	Poag Road, Edwardsville
04	4580 S. Lindberghand Gravois, Affton	15	54 N. Walcott, Wood River
05	305 Weidman Rd., Queeny Park	16	13th and Tudor, E. St. Louis
06	55 Hunter Ave., Clayton		
07	3400 Pershall Rd., Ferguson		
08	10267 St. Charles, St. Ann		
09	8227 S. Broadway, St. Louis		
10	1122 Clark, St. Louis		
11	Newstead and Cote Brilliante		

St. Louis Nonattainment Area 1-Hour Ozone 1977 - 1999
of Exceedances vs Conducive Days



Number of Days with Excessive Ozone

St. Louis exceeded the ozone standard each summer between 1996 and 1999. The table below shows the number of days that sites in Missouri and Illinois reported exceeding the ozone standard. The St. Louis ozone nonattainment area reported 13 exceedances of the one-hour standard during the 1999 ozone season (April 1 through October 31). Missouri had 11 exceedances; Illinois had two.

Number of Days with Excessive Ozone -
St. Louis Nonattainment Area

# of 1-Hour Exceedances

Site	Address	89	90	91	92	93	94	95	96	97	98	99
St. Louis	***Missouri***											
Arnold	Arnold and Tenbrook	0	0	0	0	0	2	2	1	1	1	1
West Alton	Highway 94	2	2	0	0	0	4	4	1	1	2	3
Orchard Farm								2	1	0	1	2
St. Louis	8227 S. Broadway	0	0	0	0	0	0	0	1	0	1	0
St. Louis	1122 Clark and Tucker	0	0	0	0	0	0	0	0	0	1	1
St. Louis	Newstead & Cote Brilliante	1	1	0	0	0	0	1	0	0	0	0
Affton	S. Lindbergh	0	1	1	2	2	2	0	1	1	1	0
Queeny Park	305 Weidman	0	0	0	0	0	5	1	0	0	1	1
Clayton	55 Hunter Avenue	1	1	0	1	0	3	0	0	0	1	1
Ferguson	3400 Pershall Road	1	0	0	0	0	2	1	0	1	1	1
St. Ann	10267 St. Charles Rock Road	1	1	0	0	0	4	1	0	0	1	1
	Illinois	**89**	**90**	**91**	**92**	**93**	**94**	**95**	**96**	**97**	**98**	**99**
Alton	409 Main Street	0	0	0	0	2	1	1	2	0	0	1
Maryville	200 West Division	1	0	0	0	1	1	1	0	0	0	0
Edwardsville	Poag Road	0	0	1	0	0	0	3	0	1	0	0
Wood River	54 North Walcott	0	0	0	0	0	1	2	1	1	0	1
East St. Louis	13th and Tudor	0	0	0	0	1	0	1	0	0	1	0
St. Louis Nonattainment Total		**7**	**6**	**2**	**3**	**6**	**25**	**20**	**8**	**6**	**12**	**13**

Controlling St. Louis Ozone

Missouri's State Implementation Plan (SIP) for St. Louis includes control measures and schedules for compliance with the Clean Air Act in order to attain the ozone standard. To reduce ambient ozone concentrations to safe levels, the state must control industrial and mobile sources of volatile organic compounds (VOCs). Major control measures in St. Louis include a vehicle emissions inspection and maintenance program, Stage II vapor recovery systems for gasoline refueling, emission control systems for existing and new industrial sources and some contingency measures in case the mandatory controls fail to attain the standard. Two control strategies leading to the greatest reductions in volatile organic compound emissions are enhanced vehicle inspection and maintenance and the use of reformulated gasoline.

Vehicle Emissions Inspections

The program for vehicle emissions testing and repair, or Inspection and Maintenance (I/M), is a key mechanism for controlling mobile source emissions in the St. Louis area. This program represents a large portion of DNR's state implementation plan to bring St. Louis into compliance with the National Ambient Air Quality Standards (NAAQS) for ozone, or urban smog.

During 1999, the state continued testing vehicles using the existing basic emissions program that was part of the annual safety inspection conducted at local car service facilities every year. This year, the state also made significant progress toward the start of an enhanced I/M program.

In February 1999, DNR signed a contract with Environmental Systems Products Inc. (ESP Missouri) to implement a new enhanced I/M program in the St. Louis nonattainment area. The new program, called the Gateway Clean Air Program (GCAP), was formally launched in 1999 with the announcement of the testing site locations and is to begin in April 2000.

GCAP will incorporate two new emissions testing technologies. The enhanced test simulates real driving conditions on a chassis dynamometer (treadmill-like device) during testing and measures specific pollutants from vehicles much more precisely than the current system. Stations performing this test cannot offer repair services. The second test, called RapidScreen, uses a remote sensing device to monitor exhaust emissions while vehicles are being driven on roads and highways. RapidScreen will allow the very cleanest-running vehicles to pass the new emissions test without visiting emissions testing stations.

Under contract, ESP Missouri will build and operate a network of 12 emissions testing stations in the St. Louis area. The sites form a network throughout the St. Louis nonattainment area to maximize convenient access for motorists. In 1999, the contractor began construction of testing stations and started to collect preliminary emissions data with remote sensing technology as a basis for on-road RapidScreen of vehicles in early 2000.

Low Reid Vapor Pressure Gasoline and Reformulated Gasoline

Many Volatile Organic Compound (VOC) control measures have been used in the effort to reach attainment of the ozone standard. In 1994, low vapor pressure gasoline was implemented in St. Louis. Reid vapor pressure (RVP) is a measure of the volatility of gasoline or its tendency to evaporate into the air. Lowering RVP reduces evaporative emissions of gasoline. Between 1994 and 1998, a state regulation restricted the RVP of gasoline sold in the St. Louis nonattainment area during the warmest months of the year, June 1 through Sept. 15.

At the request of the Governor, federal Reformulated Gasoline (RFG) was required at the retail level for the Missouri portion of the St. Louis nonattainment area as of June 1, 1999. RFG has a special gasoline formula designed to burn cleaner than conventional gasoline, and to reduce both exhaust and evaporative emissions. RFG is administered and enforced by the EPA.

Area Reclassification ("Bump-Up")

Moderate nonattainment areas were required to meet the NAAQS for ozone by Nov. 15, 1996. Because St. Louis failed to meet this goal, the area may be reclassified by the EPA, or "bumped up" in its nonattainment status from moderate to serious. In 1998, the EPA proposed a new policy that may allow St. Louis to obtain an attainment date extension. The department committed to meeting the requirements of the EPA's policy. Under the policy, DNR must demonstrate that St. Louis is affected by transported air pollution from upwind areas. Also, all required local control measures must be implemented and DNR must submit an EPA-approvable Attainment Demonstration showing the area will attain the ozone standard.

On Nov. 12, 1999, DNR submitted a package of regulatory requirements to the EPA including the Vehicle Inspection and Maintenance Plan, the Fifteen Percent Rate-of-Progress Plan, the Attainment Demonstration, seven reasonably available control technology (RACT) rules and a draft regulation to reduce statewide emissions of nitrogen oxides. DNR expects the EPA to grant an attainment date extension based on the information submitted. One obstacle to the attainment date extension is a lawsuit filed in July 1998 by environmental groups against the EPA for failure to bump up the St. Louis area. Should this bump up occur, St. Louis would be obligated to meet the more stringent requirements of the Clean Air Act Amendments of 1990 for serious nonattainment areas.